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| 10/082,797 | 02/25/2002 | Masahiro Sawada | 9683/106 | 2048 |

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| EXAMINER | |
|---|---|
| DESIR, PIERRE LOUIS | |
| **ART UNIT** | **PAPER NUMBER** |
| 2681 | |

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/082,797 | SAWADA ET AL. | |
| | Examiner | Art Unit | |
| | Pierre-Louis Desir | 2681 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02/25/2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/01/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 5-8, 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Drury (Drury), U.S. Patent No. 6707421.

Regarding claim 5, Drury discloses a method for communication in a communication system (see abstract) comprising: a server on a mobile network for communication with a mobile station (see col. 1, lines 65-67, and col. 2, lines 1-10); and a traffic control device (i.e. in-vehicle system) (se col. 2, lines 57-59) for controlling an object comprising the steps of: the server obtaining mobile identifying information for identifying the object and object identifying information for identifying the mobile station (i.e. knowing that the driver information system includes a handset module, and a communication module which make up a modular wireless telephone which need to be authenticated, as known in the art, before it can be used. One skilled in the art would unhesitatingly conceptualize that when the server obtains the vehicle identification, it inherently obtains the modular wireless telephone identification. In addition, when the server obtains the vehicle identification from the in-vehicle system, it can identify not only the vehicle but also the modular wireless telephone/mobile station) (see fig. 2, abstract and col. 11, lines 50-60, col. 36, lines 48-53); storing the mobile identifying information and the

object identifying information correspondingly (see claim1 rejection reasoning and col. 36, lines 48-53); when receiving a call for the mobile station identified by the mobile identifying information, retrieving the object identifying information corresponding to the mobile identifying information (i.e. the in-vehicle system initiates communication session with server by placing a cellular telephone call to a number associated with the server system. The in-vehicle system then transmits the location data and the destination specification to the server as a response to an inherent query from the server) (see claim 1 rejection reasoning, fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); and transmitting retrieved object identifying information to the traffic control device (i.e. the in-vehicle system then transmits the location data and the destination specification to the server) (see fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); and the traffic control device generating movement information on the object identified by the object identifying information (i.e. while traveling toward a destination, the in-vehicle system tracks an estimated location of the vehicle) (see col. 9, lines 15-16); and transmitting generated movement information to the server (i.e. if the operator does not properly follow the directions, the in-vehicle system will typically detect when the vehicle has diverged too far from the planned route. When it detects that the vehicle is off-route, it plans a corrected route based, which gets the vehicle back onto the originally planned route. To be able to plan another route, the in-vehicle system has to inherently notify the server of the movement of the vehicle) (see col. 9, lines 15-22); and the server converting received movement information into location area information (col. 8, lines 53-58); and paging the mobile station on the basis of the location area (see col. 6, lines 1-7).

Regarding claim 6, Drury discloses a method for communication in a communication system comprising: a server on a mobile network for communication with a mobile station (see col. 1, lines 65-67, and col. 2, lines 1-10); and a traffic control device (i.e. in-vehicle system) (see col. 2, lines 57-59) for controlling an object comprising the steps of: upon receiving an object identifying information for identifying the object from a transmitting device provided in the object (i.e. the in-vehicle system transfers identification of the object to the server) (see col. 36, lines 44-50), the mobile station transmitting to the server mobile identifying information for identifying the mobile station and received object identifying information (see col. 36, lines 50-53); and the server obtaining the mobile identifying information and the object identifying information (col. 36, lines 48-53); storing the mobile identifying information and the object identifying information correspondingly (see claim1 rejection reasoning and col. 36, lines 48-53); when receiving a call for the mobile station identified by the mobile identifying information, retrieving the object identifying information corresponding to the mobile identifying information (i.e. the in-vehicle system initiates communication session with server by placing a cellular telephone call to a number associated with the server system. The in-vehicle system then transmits the location data and the destination specification to the server as a response to an inherent query from the server) (see claim 1 rejection reasoning, fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); and transmitting retrieved object identifying information to the traffic control device (i.e. the in-vehicle system then transmits the location data and the destination specification to the server) (see fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); and the traffic control device generating movement information on the object identified by the object identifying information (i.e. while traveling toward a destination, the in-vehicle system tracks an

estimated location of the vehicle) (see col. 9, lines 15-16); and transmitting generated movement information to the server (i.e. if the operator does not properly follow the directions, the in-vehicle system will typically detect when the vehicle has diverged too far from the planned route. When it detects that the vehicle is off-route, it plans a corrected route based, which gets the vehicle back onto the originally planned route. To be able to plan another route, the in-vehicle system has to inherently notify the server of the movement of the vehicle) (see col. 9, lines 15-22); and the server converting received movement information into location area information (col. 8, lines 53-58); and paging the mobile station on the basis of the location area information (see col. 6, lines 1-7).

Regarding claim 7, Drury discloses a method for communication in a communication system (see abstract) comprising: a server on a mobile network for communication with a mobile station (see col. 1, lines 65-67, and col. 2, lines 1-10); and a traffic control device for controlling movement of an object (i.e. in-vehicle system) (se col. 2, lines 57-59) comprising the steps of: the server obtaining mobile identifying information for identifying the object and object identifying information for identifying the object (i.e. knowing that the driver information system includes a handset module, and a communication module which make up a modular wireless telephone which need to be authenticated, as known in the art, before it can be used. One skilled in the art would unhesitatingly conceptualize that when the server obtains the vehicle identification, it inherently obtains the modular wireless telephone identification. In addition, when the server obtains the vehicle identification from the in-vehicle system, it can identify not only the vehicle but also the modular wireless telephone/mobile station) (see fig. 2, abstract and col. 11, lines 50-60, col. 36, lines 48-53); and upon detecting a movement change of the object,

the traffic control device generating movement information, transmitting to the server the object identifying information and generated movement information (i.e. while traveling toward a destination, the in-vehicle system tracks an estimated location of the vehicle. If the operator does not properly follow the directions, the in-vehicle system will typically detect when the vehicle has diverged too far from the planned route. When it detects that the vehicle is off-route, it plans a corrected route based, which gets the vehicle back onto the originally planned route. To be able to plan another route, the in-vehicle system has to inherently notify the server of the movement of the vehicle by inherently transmits to the server the information) (see col. 9, lines 15-22); and the server receiving the movement information (i.e. a corrected route is planned as a result of notifying and transmitting to the server the information; thus, the server has to receive the information for the process to take place) (see col. 9, lines 15-22); converting received movement information into location area information about an area within which the mobile station is located (col. 8, lines 53-58);storing the object identifying information and the location area information correspondingly (see col. 36, lines 48-53); when receiving a call for the mobile station including the mobile identifying information, retrieving the location area information corresponding to the mobile identifying information (i.e. the in-vehicle system initiates communication session with server by placing a cellular telephone call to a number associated with the server system. The in-vehicle system then transmits the location data and the destination specification to the server as a response to an inherent query from the server) (see claim 1 rejection reasoning, fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); and paging the mobile station on the basis of location area information (see col. 6, lines 1-7).

Regarding claim 8, Drury discloses a method for communication in a communication

system comprising: a server on a mobile network for communication with a mobile station (see col. 1, lines 65-67, and col. 2, lines 1-10); and a traffic control device (i.e. in-vehicle system) (see col. 2, lines 57-59) for controlling movement of an object comprising the steps of: upon receiving object identifying information for identifying the object from a transmitting device provided in the object (i.e. the in-vehicle system transfers identification of the object to the server) (see col. 36, lines 44-50), the mobile station transmitting mobile identifying information for identifying the mobile station and received object identifying information to the server (see col. 36, lines 50-53); and the server receiving the mobile identifying information and the object identifying information (see claim 7 reasoning pertaining to limitation, and see fig. 2, abstract and col. 11, lines 50-60, col. 36, lines 48-53); and upon detecting a movement change of the object, the traffic control device generating movement information transmitting to the server the object identifying information and generated movement information (see claim 7 rejection pertaining to limitation, and col. 9, lines 15-22); and the server receiving the movement information (i.e. a corrected route is planned as a result of notifying and transmitting to the server the information; thus, the server has to receive the information for the process to take place) (see col. 9, lines 15-22); converting received movement information into location area information about an area within which the mobile station is located (col. 8, lines 53-58); storing the object identifying information and the location area information correspondingly (see col. 36, lines 48-53); when receiving a call for the mobile station including the mobile identifying information, retrieving the location area information corresponding to the mobile identifying information (i.e. the in-vehicle system initiates communication session with server by placing a cellular telephone call to a number associated with the server system. The in-vehicle system then

transmits the location data and the destination specification to the server as a response to an inherent query from the server) (see claim 1 rejection reasoning, fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); and paging the mobile station on the basis of the location area information (see col. 6, lines 1-7).

Regarding claim 18, Drury discloses a method for providing location information of a mobile station in a mobile network to a terminal (see abstract) comprising the steps of: the mobile station receiving, from a transmitting device provided in an object, object identifying information for identifying the object (i.e. the in-vehicle system transfers identification of the object to the server) (see col. 36, lines 44-50); transmitting to a server in the mobile network the object identifying information and mobile identifying information for identifying the mobile station (see col. 36, lines 50-53); the server storing the object identifying information and the mobile identifying information correspondingly (see col. 36, lines 48-53); when receiving from the terminal an inquiry of location information on the mobile station including the mobile identifying information, judging whether the object identifying information corresponding to the mobile identifying information is stored in the server col. 36, lines 48-53); and if the object identifying information is stored, generating and transmitting to the terminal boarding information representing that the mobile station is in the object (i.e. referring back to the preceding rejection of the limitation, the in-vehicle system then sends the location data and the destination specification as a response to an inherent query. One skill in the art would immediately envision that the identifying information would have to be stored for the process to take place, and refer back to above rejections, the communication system, within which is included a cellular module, is included with the object; therefore, information transmitted to the

onboard computer/terminal represents that the cellular module is included with the object/vehicle) (see col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64).

Regarding claim 19, Drury discloses a method for providing location information on a mobile station in a mobile network to a terminal (see abstract) comprising the steps of: the server obtaining and storing correspondingly object identifying information for identifying an object and mobile identifying information for identifying the mobile station (col. 36, lines 48-53); when receiving from the terminal an inquiry of location information on the mobile station including the mobile identifying information, retrieving the object identifying information corresponding to the mobile identifying information (see fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); obtaining movement information on the object identified by the object identifying information (see col. 9, lines 15-16); converting obtained movement information into the location information (col. 8, lines 53-58); and transmitting the location information to the terminal (see col. 9, lines 15-22).

Regarding claim 20, Drury discloses a method for providing location information on a mobile station in a mobile network to a terminal (see abstract) comprising the steps of: upon receiving, from transmitting device provided in an object, object identifying information for identifying the object, the mobile station transmitting mobile identifying information for identifying the mobile station and the object identifying information to a server in the mobile network (i.e. the in-vehicle system transfers identification of the object to the server) (see col. 36, lines 44-50); the server storing the object identifying information and the mobile identifying information correspondingly (see col. 36, lines 48-53); when receiving from the terminal an inquiry of location information on the mobile station including the mobile identifying

information, retrieving the object identifying information corresponding to the mobile identifying information (see fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64); obtaining movement information on the object identified by the object identifying information (see col. 9, lines 15-16); converting obtained movement information into the location information (col. 8, lines 53-58); and transmitting the location information to the terminal (see col. 9, lines 15-22).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 9-17, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drury et al. (Drury), U.S. Patent No. 6707421 in view of Kinnunen et al. (Kinnunen), U.S. Patent No. 6813501.

Regarding claim 1, Drury discloses a method for managing location information on a mobile station on an object by a server on a mobile network (see abstract) comprising the steps of: the server obtaining and storing correspondingly object identifying information for identifying the object and mobile identifying information for identifying the mobile station (i.e. Drury discloses an information management system includes and information a storage for a unique identification of the information system; and, this identification is passed to the server. It is also worth noting when the in-vehicle system (i.e. traffic control device) transfers the unique identification of the vehicle to the server, it is used by the server to access information such as

the make, model, and color of the vehicle. Furthermore, Drury discloses a mobile communication system, which includes a cellular transceiver coupled to a cellular antenna, where cellular phone calls can be placed using handset; therefore, one skilled in art would immediately conceptualize that for cellular phone calls to be feasible, the mobile station has to authenticate itself to the server; thus the server obtains and stores not only the car identification information, but also the cellular phone, which is part of the system) (see fig. 2, abstract and col. 11, lines 50-60, col. 36, lines 48-53);obtaining, from a traffic control device which controls movement of the object, object movement information of the object identified by the object identifying information(i.e. in-vehicle system or traffic control device, as described by Drury, comprises an onboard computer which is used to coordinate the operation of sensors that provide information related to the motion of the vehicle) (see fig. 2, col. 9, lines 65-67, col. 10, lines 1-2); converting the movement information into a location area information (i.e. While traveling to the destination, the in-vehicle system attempts to track the location of the vehicle. As the in-vehicle system determines that the vehicle is approaching each maneuver point, it provides aural and graphical instructions to the operator regarding the action to take at that maneuver point) (col. 8, lines 53-58).

Although Drury describes a method as described above, and where the information management system may a be a portable system providing the same functionality of the in-vehicle system, Drury fails to specifically discloses a method for managing location information on a mobile station by a server on a mobile network comprising the step of managing location of the mobile station on the basis of the location area information.

However, Kinnunen discloses a location management method in which a server obtains

and inherently stores mobile identifying information for identifying the mobile station, and manages location of the mobile station on the basis of the location area (i.e. server receives user identification information, and location information, which indicates the location of mobile terminal and tracks them so that their presence in particular service deployment can be determined) (see abstract, and col. 12, lines 21-27).

Drury and Kinnunen are analogous art because they are from the same field of endeavor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation to do so would have been to arrive at a method useful in distinguishing the movement of object, such as vehicle, and mobile terminal inside overlapping areas.

Regarding claim 2, Drury discloses a method for managing location information on an object by a server on a mobile network comprising the steps of: upon receiving object identifying information for identifying the object from a transmitting device provided in the object (i.e. the in-vehicle system transfers identification of the object to the server) (see col. 36, lines 44-50), the received object identification information is used by the server for identifying the object (see col. 36, lines 50-53); the server receiving and storing correspondingly the object identifying information (see abstract and col. 36, lines 48-53); obtaining, from a traffic control device which controls movement of the object, object movement information of the object identified by the object identifying information (see fig. 2, col. 9, lines 65-67, col. 10, lines 1-2); converting the movement information into a location area information (col. 8, lines 53-58).

Although, Drury discloses a method as described above, Drury fails to specifically disclose a method for managing location information on a mobile station by a server on a mobile

network comprising the steps of: upon receiving object identifying information for identifying the object from a transmitting device provided in the object, the mobile station transmitting to the server received object identifying information and mobile identifying information for identifying the mobile station the server obtaining and storing correspondingly mobile identifying information for identifying the mobile station; and managing location of the mobile station on the basis of the location area information.

However, Kinnunen discloses a location management method in which a server receives mobile identifying information from the mobile terminal, and inherently stores mobile identifying information for identifying the mobile station, and manages location of the mobile station on the basis of the location area (i.e. server receives user identification information, and location information, from the mobile station, which indicates the location of mobile terminal and tracks them so that their presence in particular service deployment can be determined) (see abstract, and col. 12, lines 21-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation to do so would have been to arrive at a method useful in distinguishing the movement of object, such as vehicle, and mobile terminal inside overlapping areas.

Regarding claim 3, Drury discloses a method as described above (refer to claim 2 rejection). Drury also discloses a method, wherein upon receiving a call for a mobile station (i.e. cellular telephone), the server inquires about the movement information for the traffic control device (i.e. the in-vehicle system initiates communication session with server by placing a cellular telephone call to a number associated with the server system. The in-vehicle system then

sends the location data and the destination specification to the server as a response to an inherent query from the server) (see fig. 3, col. 12, lines 1-3, and col. 18, lines 52-64).

Although, Drury discloses a method as described above. Because of the dependency of this claim on claim 2, it is worth noting that Drury fails to specifically disclose a method for managing location information on a mobile station by a server on a mobile network comprising the steps of: upon receiving object identifying information for identifying the object from a transmitting device provided in the object, the mobile station transmitting to the server received object identifying information and mobile identifying information for identifying the mobile station the server obtaining and storing correspondingly mobile identifying information for identifying the mobile station; and managing location of the mobile station on the basis of the location area information.

However, Kinnunen discloses a location management method in which a server receives mobile identifying information from the mobile terminal, and inherently stores mobile identifying information for identifying the mobile station, and manages location of the mobile station on the basis of the location area (i.e. server receives user identification information, and location information, from the mobile station, which indicates the location of mobile terminal and tracks them so that their presence in particular service deployment can be determined) (see abstract, and col. 12, lines 21-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation to do so would have been to arrive at a method useful in distinguishing the movement of object, such as vehicle, and mobile terminal inside overlapping areas.

Regarding claim 4, Drury discloses a method as described above (see claim 2 rejection). Drury discloses a method, wherein upon detecting movement of the object, the traffic control device (i.e. in-vehicle system) notifies the server of the movement information (i.e. while traveling toward a destination, the in-vehicle system tracks an estimated location of the vehicle. If the operator does not properly follow the directions, the in-vehicle system will typically detect when the vehicle has diverged too far from the planned route. When it detects that the vehicle is off-route, it plans a corrected route based, which gets the vehicle back onto the originally planned route. To be able to plan another route, the in-vehicle system has to inherently notify the server of the movement of the vehicle) (see col. 9, lines 15-22).

Although, Drury discloses a method as described above. Because of the dependency of this claim on claim 2, it is worth noting that Drury fails to specifically disclose a method for managing location information on a mobile station by a server on a mobile network comprising the steps of: upon receiving object identifying information for identifying the object from a transmitting device provided in the object, the mobile station transmitting to the server received object identifying information and mobile identifying information for identifying the mobile station the server obtaining and storing correspondingly mobile identifying information for identifying the mobile station; and managing location of the mobile station on the basis of the location area information.

However, Kinnunen discloses a location management method in which a server receives mobile identifying information from the mobile terminal, and inherently stores mobile identifying information for identifying the mobile station, and manages location of the mobile station on the basis of the location area (i.e. server receives user identification information, and

location information, from the mobile station, which indicates the location of mobile terminal and tracks them so that their presence in particular service deployment can be determined) (see abstract, and col. 12, lines 21-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation to do so would have been to arrive at a method useful in distinguishing the movement of object, such as vehicle, and mobile terminal inside overlapping areas.

Regarding claim 9, Drury discloses a communication system comprising: a traffic control device (i.e. in-vehicle system) for controlling movement of an object (see col. 2, lines 57-59); and a mobile network (see abstract); and the mobile network comprising: a mobile station (see abstract); a switch to initiate communication (see abstract); and an object information server for communicating with traffic control device (see col. 36, lines 44-53); and the mobile station comprises means for receiving object identifying information for identifying the object and transmitted received object identifying information and mobile identifying information for identifying the mobile station (see col. 36, lines 44-50); and the object information server comprising: means for receiving from and transmitting to the traffic control device object identifying information (see col. 36, lines 44-53); means for receiving from the traffic control device movement information on the object identified by the object identifying information (see col. 36, lines 44-50); means for converting received movement information into the location area information (col. 8, lines 53-58); means for receiving from the traffic control device movement information on the object identified by the object identifying information (see col. 36, lines 44-50); means for converting received movement information into the location area information

(col. 8, lines 53-58); and the traffic control device comprising: means for receiving from the object information server the object identifying information (col. 36, lines 48-53) and generating the movement information on the basis of received object identifying information (i.e. while traveling toward a destination, the in-vehicle system tracks an estimated location of the vehicle) (see col. 9, lines 15-16); and means for transmitting generated movement information to the object information sever (see col. 9, lines 15-22).

Although Drury discloses a communication system as described above, Drury fails to specifically disclose a communication system (though the obviousness and inherency existence of base station, location server, and their communication procedure in disclosure of Drury teachings) (see fig. 1, col. 4, lines 52-67, col. 6, 36-44) comprising of a mobile network comprising of a base station for communicating with the base station, where object identifying information and mobile identifying can be transmitted to the base station; and a location server comprising appropriate means to store, retrieve, receive, and transmit identifying information, and local area information.

However, Kinnunen discloses a communication system comprising a mobile network comprising a base station for communicating with the mobile station (see col. 6, lines 9-19), and a location server, which receives and maintains the current location information of the mobile station of the network, and validates the received information (see col. 10, lines 61-67, and col. 11, lines 24-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings, which are analogous because they are from the same field of endeavor to arrive at the claimed invention. A motivation to do so would have been to arrive

at a method useful in distinguishing the movement of object, such as vehicle, and mobile terminal inside overlapping areas.

Regarding claim 10, Drury discloses a communication system comprising: a traffic control device (i.e. in-vehicle system) for controlling movement of an object (see col. 2, lines 57-59); and a mobile network (see abstract); and the mobile network comprising: a mobile station (see abstract); a switch to initiate communication (see abstract); and an object information server for communicating with traffic control device; and the mobile station comprises means for receiving object identifying information for identifying the object and transmitted received object identifying information and mobile identifying information for identifying the mobile station (see col. 36, lines 44-50); and the traffic control device comprising: means for detecting movement change of the object and generating movement information representing movement of the object (see claim 7 rejection pertaining to limitation, and col. 9, lines 15-22); and means for transmitting to the object information server the object identifying information and the movement information (see col. 9, lines 15-22); and the object information server comprising: means for receiving from to the traffic control device object identifying information and movement information (see col. 36, lines 44-53); means for converting received movement information into the location area information representing an area within which the mobile station is located (col. 8, lines 53-58); means for receiving from the traffic control device movement information on the object identified by the object identifying information (see col. 36, lines 44-50).

Although Drury discloses a communication system as described above, Drury fails to specifically disclose a communication system (though the obviousness and inherency existence

of base station, location server, and their communication procedure in disclosure of Drury teachings) (see fig. 1, col. 4, lines 52-67, col. 6, 36-44) comprising of a mobile network comprising of a base station for communicating with the base station, where object identifying information and mobile identifying can be transmitted to the base station; and a location server comprising appropriate means to store, retrieve, receive, and transmit identifying information, and local area information.

However, Kinnunen discloses a communication system comprising a mobile network comprising a base station for communicating with the mobile station (see col. 6, lines 9-19), and a location server, which receives and maintains (one skilled in the art would immediately envision that the location server is comprised storing means for receiving information and for storing information. Giving the fact that first storing means and second storing means disclose in the specification is without explanation, as understood from the specification, the storing means discloses by Drury can be interpreted as both first and second storing means) location information of the mobile station of the network, and validates the received information (see col. 10, lines 61-67, and col. 11, lines 24-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings, which are analogous because they are from the same field of endeavor to arrive at the claimed invention. A motivation to do so would have been to arrive at a method useful in distinguishing the movement of object, such as vehicle, and mobile terminal inside overlapping areas.

Regarding claim 11, Drury discloses a communication system as described above (see claim 10 rejection).

Although, Drury discloses a communication system as described, Drury fails to specifically discloses a communication system, wherein when not receiving from the transmitting device the object identifying information and moving into another location area, the mobile station transmits to the location server updated location information on the mobile station and the mobile identifying information; and when receiving the location area information and the mobile identifying information sent from the mobile station, the location server stores to the second storing means the mobile identifying information and the updated location area information correspondingly, instead of the object identifying information.

However, Kinnunen discloses a communication method where the location server tracks the mobile station as it moves to another location area, and using the information to inform the service configurator (see fig. 5, col. 12, lines 57-67).

Therefore it would have been obvious to one of ordinary skill in the art to combine both teachings in order to obtain the claimed invention in order to improve the reliability of location information when mobile station move to another area or is within overlapping areas.

Regarding claim 12, Drury discloses an information providing system for providing location information on a mobile station in a mobile network to a terminal (i.e. onboard computer) (see col. 3, lines 2-14) comprising: a location information server for carrying out communication with the terminal (see fig. 2, col. 11, lines 50-60); and upon receiving from a transmitting device provided in an object identifying information for identifying an object, the mobile station transmits to the server the mobile identifying information for identifying the mobile station and received object identifying information (see col. 36, lines 44-53); and the server receives and stores correspondingly the object identifying information and the mobile

identifying information sent from the mobile station (see col. 36, lines 48-53); and upon receiving from the terminal an inquiry of location information on the mobile station including the mobile identifying information, the location information server judges whether the object identifying information corresponding to the mobile identifying information is stored in the location server (i.e. the in-vehicle system initiates communication session with server by placing a cellular telephone call to a number associated with the server system. Drury indicates that the in-vehicle system, which is coupled with the terminal/onboard computer, establishes a communication session with the server system. As known from the art, and understood from the specification, communication is establishes after an inherent authentication of both the object and the mobile station. Thus, an inherent determination or judgment takes place as to the identifying information of the object and the mobile station) (see fig. 3, col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64); and if the object identifying information is stored, transmits to the terminal boarding information representing that the mobile station is in the object (i.e. referring back to the preceding rejection of the limitation, the in-vehicle system then sends the location data and the destination specification as a response to an inherent query. One skill in the art would immediately envision that the identifying information would have to be stored for the process to take place, and refer back to above rejections, the communication system, within which is included a cellular module, is included with the object; therefore, information transmitted to the onboard computer/terminal represents that the cellular module is included with the object/vehicle) (see col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64).

Although Drury discloses an information providing system as described above, Drury fails to specifically disclose an information system comprising a location server in the mobile

network for managing location of the mobile station, and the communication functionality of the location server.

However, Kinnunen discloses a information providing system comprising a location server, which receives and maintains location information of the mobile station of the network, and validates the received information (one skilled in the art would immediately envision that the location server is comprised storing means for receiving information and for storing information. Giving the fact that first storing means and second storing means disclose in the specification is without explanation, as understood from the specification, the storing means discloses by Drury can be interpreted as both first and second storing means) (see col. 10, lines 61-67, and col. 11, lines 24-26), and tracks the mobile station as it moves to another location area, and using the information to inform service configurator; thus, the location server manages the location of the mobile station associated with the object) (see fig. 5, col. 12, lines 57-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system as taught by Drury with the system as taught by Kinnunen to arrive at the claimed invention. A motivation to do so would have been to improve the reliability of location information when mobile station move to another area or is within overlapping areas.

Regarding claim 13, Drury discloses an information providing system (see claim 12 rejection), wherein the location information server further comprises means for identifying the mobile station using the mobile identifying information (see col. 36, lines 44-53), carrying out communication with the mobile station (see fig. 2, col. 11, lines 50-60), and obtaining from the mobile station the location information (see col. 12, lines 21-27); and transmitting to the terminal

the boarding information and the location information (see col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64).

Although Drury discloses an information providing system as described, because the dependency of this claim on the preceding claim (i.e. claim 12), Drury fails to specifically disclose an information system comprising a location server in the mobile network for managing location of the mobile station, and the communication functionality of the location server.

However, Kinnunen discloses a information providing system comprising a location server, which receives and maintains location information of the mobile station of the network, and validates the received information (one skilled in the art would immediately envision that the location server is comprised storing means for receiving information and for storing information. Giving the fact that first storing means and second storing means disclose in the specification is without explanation, as understood from the specification, the storing means discloses by Drury can be interpreted as both first and second storing means) (see col. 10, lines 61-67, and col. 11, lines 24-26), and tracks the mobile station as it moves to another location area, and using the information to inform service configurator; thus, the location server manages the location of the mobile station associated with the object) (see fig. 5, col. 12, lines 57-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system as taught by Drury with the system as taught by Kinnunen to arrive at the claimed invention. A motivation to do so would have been to improve the reliability of location information when mobile station move to another area or is within overlapping areas.

Regarding claim 14, Drury discloses an information providing system (see claim 12 rejection) further comprising an object information server for carrying out communication with a traffic control device which controls movement of the object (see col. 36, lines 44-53); and wherein upon receiving from the terminal an inquiry of location information including the mobile identifying information, the location information server transmits the mobile identifying information to the location server (see fig. 3, col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64); and upon obtaining from the location server the location information, transmits to the terminal the boarding information and the location information (see claim 12 rejection pertaining to explanation of the limitation, and see fig. 3, col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64); and upon receiving from the location information server the mobile identifying information, the location server transmits to the object information server the object identifying information corresponding to the mobile identifying information (see col. 36, lines 50-53); and upon receiving the object identifying information from the location server, the object information server obtains from the traffic control device the movement information on the object corresponding to the object identifying information (i.e. while traveling toward a destination, the in-vehicle system tracks an estimated location of the vehicle) (see col. 9, lines 15-16); converts obtained movement information into the location information (col. 8, lines 53-58); and transmits the location information to the location information server via the location server (see col. 9, lines 15-22).

Although Drury discloses an information providing system as described, because the dependency of this claim on the preceding claim (i.e. claim 12), Drury fails to specifically

disclose an information system comprising a location server in the mobile network for managing location of the mobile station, and the communication functionality of the location server.

However, Kinnunen discloses a information providing system comprising a location server, which receives and maintains location information of the mobile station of the network, and validates the received information (one skilled in the art would immediately envision that the location server is comprised storing means for receiving information and for storing information. Giving the fact that first storing means and second storing means disclose in the specification is without explanation, as understood from the specification, the storing means discloses by Drury can be interpreted as both first and second storing means) (see col. 10, lines 61-67, and col. 11, lines 24-26), and tracks the mobile station as it moves to another location area, and using the information to inform service configurator; thus, the location server manages the location of the mobile station associated with the object) (see fig. 5, col. 12, lines 57-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system as taught by Drury with the system as taught by Kinnunen to arrive at the claimed invention. A motivation to do so would have been to improve the reliability of location information when mobile station move to another area or is within overlapping areas.

Regarding claim 15, Drury discloses an information providing system (see claim 14 rejection), wherein the object information server stores the movement information obtained from the traffic control device and the object identifying information correspondingly (see col. 36, lines 44-53); and when receiving from the location server the object identifying information, generates the location information on the object identified by the object identifying information on the basis of stored movement information on the object (col. 8, lines 53-58).

Although Drury discloses an information providing system as described, because the dependency of this claim on the preceding claim (i.e. claim 14), Drury fails to specifically disclose an information system comprising a location server in the mobile network for managing location of the mobile station, and the communication functionality of the location server.

However, Kinnunen discloses a information providing system comprising a location server, which receives and maintains location information of the mobile station of the network, and validates the received information (one skilled in the art would immediately envision that the location server is comprised storing means for receiving information and for storing information. Giving the fact that first storing means and second storing means disclose in the specification is without explanation, as understood from the specification, the storing means discloses by Drury can be interpreted as both first and second storing means) (see col. 10, lines 61-67, and col. 11, lines 24-26), and tracks the mobile station as it moves to another location area, and using the information to inform service configurator; thus, the location server manages the location of the mobile station associated with the object) (see fig. 5, col. 12, lines 57-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system as taught by Drury with the system as taught by Kinnunen to arrive at the claimed invention. A motivation to do so would have been to improve the reliability of location information when mobile station move to another area or is within overlapping areas.

Regarding claim 16, Drury discloses an information providing system (see claim 15 rejection), wherein upon detecting a movement change of the object, the traffic control device updates and notifies to the object information server of the movement information (see col. 9, lines 15-22); and the object information server receives the movement information and generates

the location information on the basis the movement information (see col. 8, lines 53-58, and col. 9, lines 15-22).

Although Drury discloses an information providing system as described, because the dependency of this claim on the preceding claim (i.e. claim 15), Drury fails to specifically disclose an information system comprising a location server in the mobile network for managing location of the mobile station, and the communication functionality of the location server.

However, Kinnunen discloses a information providing system comprising a location server, which receives and maintains location information of the mobile station of the network, and validates the received information (one skilled in the art would immediately envision that the location server is comprised storing means for receiving information and for storing information. Giving the fact that first storing means and second storing means disclose in the specification is without explanation, as understood from the specification, the storing means discloses by Drury can be interpreted as both first and second storing means) (see col. 10, lines 61-67, and col. 11, lines 24-26), and tracks the mobile station as it moves to another location area, and using the information to inform service configurator; thus, the location server manages the location of the mobile station associated with the object) (see fig. 5, col. 12, lines 57-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system as taught by Drury with the system as taught by Kinnunen to arrive at the claimed invention. A motivation to do so would have been to improve the reliability of location information when mobile station move to another area or is within overlapping areas.

Regarding claim 17, Drury discloses an information providing system (see claim 14 rejection), wherein when receiving from the terminal an inquiry of the location information on

the mobile station, the location information server generates, on the basis of the movement information, location information and transmits the location information to the terminal (col. 8, lines 53-58).

Although Drury discloses an information providing system as described, Drury fails to disclose that the location information generated by the server is estimated location information representing a future location on the mobile station and transmits the estimated location information to the terminal (see col. 11, lines 53-54, col. 12, lines 1-3, and col. 18, lines 52-64)

However, Kinnunen discloses an information providing system wherein the location information generated is an estimated location information based on future location, and the information is provided to a network (see col. 15, lines 54-65).

Therefore it would have been obvious to one of ordinary skill in the art to combine both teachings in order to arrive at the claimed invention. A motivation to do so would have been to make the system flexible by making it based on not just actual location information.

Regarding claim 21. Drury discloses a method for providing location information as described above (see claim 20 rejection).

Although Drury discloses a method for providing location information as described above, Drury fails to specifically disclose a method for providing location information, wherein when receiving the movement information, the server generates, on the basis of the movement information, estimated location information representing a future location of the mobile station and transmits the estimated location information to the terminal.

However, Kinnunen discloses information providing system wherein the location information generated is estimated location information based on future location, and the information is provided to a network (see col. 15, lines 54-65).

Therefore it would have been obvious to one of ordinary skill in the art to combine both teachings in order to arrive at the claimed invention. A motivation to do so would have been to make the system flexible by making it based on not just actual location information.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is 703-605-4312. The examiner can normally be reached on Monday-Friday from 0800-1630.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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JEAN GELIN
PRIMARY EXAMINER

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AU 2681
10/26/2004